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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/398,307	09/20/1999	SHAWN W. HOGBERG	IRI03778	9914

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VINCENT B INGRASSIA
MOTOROLA INC INTELLECTUAL PROPERTY DEPT
SUITE R3108
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SCOTTSDALE, AZ 852710219

EXAMINER

RAMOS FELICIANO, ELISEO

ART UNIT	PAPER NUMBER
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2681

DATE MAILED: 04/11/2003 9

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary

Application No.
09/398,307

Applicant(s)
HOGBERG et al.

Examiner
ELISEO RAMOS-FELICIANO

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Jan 24, 2003
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10, 12, 14-17, and 19-25 is/are pending in the application.
- 4a) Of the above, claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10, 12, 14-17, and 19-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- *See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____
- ☐ Interview Summary (PTO-413) Paper No(s). _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other:

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DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on January 24, 2003 has been entered.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. **Claims 1-2, 4-5, 7-8, 10, 12 14-17 and 21-22** are rejected under 35 U.S.C. 102(b) as being anticipated by Doner (US Patent Number 5,758,090).

Regarding **claims 1, 7, 12 and 21**, Doner discloses a system and method for providing wireless communication and for managing channel assignment in a wireless communication system. Doner's system includes a plurality of subscribers (e.g. 20-₁) and a plurality of cells (12-₁, 12-₂, 12-₃, . . . 12-_n), each cell having a predetermined frequency band ($f_1, f_2, \dots f_m$) for use in establishing communication connections between a first location and a second location. See title, abstract and Figures 1-3.

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"In particular, a first set of forward channels is reserved by the base station for transmitting to the mobile stations located within a first certain radius of the base station antenna at a predetermined power level. A second set of forward channels service the mobile stations located in a concentric annular ring centered around the base station antenna at a second power level. Third, fourth, and subsequent sets of forward radio channels may then be used to service mobile stations located at successively longer radii and successively different power levels." — column 3, lines 1-10.

"In other words, suppose that m available radio frequencies, f_1, f_2, \dots, f_m , are divided into n groups, c_1, c_2, \dots, c_n . The first group of frequencies, c_1 , are used by the base station controller 20 to establish forward links with mobile stations located within a first radius, R_1 , of the base station antenna 23. The second group of frequencies, c_2 , are assigned for use by mobile station 20 located within an annular ring between radii R_1 , and R_2 . Likewise, the n th frequency group, c_n , is assigned for use by mobile stations located between radii R_{n-1} and R_n ." — column 4, lines 48-57.

From above citations, a predetermined frequency band (see top of Figure 3; e.g. f_1, f_2, \dots, f_m) is divided (segmented) into a plurality of frequency sub-bands (group of frequencies or channel groups: e.g. c_1, c_2, \dots, c_n); which in turn comprise a plurality of radio channel frequencies. A multiple access scheme is implemented within each sub-band. A power range (level) is specified for each one of the frequency sub-bands or group of frequencies (c_1, c_2, \dots, c_n); wherein at least two of the different group of frequencies (sub-bands) are assigned power ranges (power levels) that are different from one another. The power level required for a first mobile station subscriber

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(first communication connection) is determined or ascertained; then, the corresponding sub-band that has such power level is identified and a radio frequency channel within such sub-band is assigned for the communication connection. See also columns 1, 4-6.

Regarding **claims 2, 4-5, 8, 14-17 and 22**, Doner discloses everything claimed as applied above (see *claims 1, 7, 12, and 21*). In addition, the frequency sub-bands (group of frequencies or channel groups) include a plurality of CDMA channels; see abstract and column 4, lines 8-11, *inter alia*. The ascertained power level includes RSSI level measurement or transmit power level requirements for a given zone or radii of the cell; see citations above and column 4, lines 37 to column 5, line 37, and column 6, lines 55-62. The group of frequencies (sub-bands) include both transmit and receive radio frequency channels. Figure 3 depicts frequency multiplexing (e.g. FDMA).

Regarding **claim 10**, Doner discloses everything claimed as applied above (see *claim 7*). In addition, "In step 108, the base station controller 26 determines if the distance d , for a previously active mobile station has changed. If that distance has changed sufficiently, such that the mobile station has entered a different one of the n rings, then control passes to a step 109 where a new frequency is assigned. The frequency assignment scheme in step 109 is the same as that in step 106. In other words, the frequency for the forward link is selected from one of the sets c_1, c_2, \dots, c_n based upon the distance d as explained above." — column 5, line 66 to column 6, line 7. As a mobile station moves from one zone (e.g. radii R_1) to another (e.g. radii R_2) a new

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radio frequency channel having a new power level requirement is assigned for the communication connection. Controller 26 reads as the claimed means for monitoring and means for assigning.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. **Claims 3, 6, 9, 19-20, and 22-25** are rejected under 35 U.S.C. 103(a) as being unpatentable over Doner (US Patent Number 5,758,090) in view of Natarajan et al. (US Patent Number 5,749,044).

Regarding **claims 6, and 19-20**, Doner discloses everything claimed as applied above (see *claims 1 and 12*). However, Doner fails to specifically disclose satellite communication system as defined by applicant. But a wireless/cellular communication system is to a satellite communication system as a county is to a state; the second extends over a larger geographic region. Therefore, Doner's invention can be extrapolated to satellite communications for the conventional advantage of extended geographic coverage, for example, more users can be serviced.

Natarajan et al. discloses a system and method for providing wireless communication and for managing channel assignment in a satellite communication system. "A central controller (40) executes a method (100) that selects and assigns channels to serve mobile subscriber units (30) in

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a space-based mobile telecommunication system (10)." — abstract. A space-based (satellite) mobile telecommunication system requires footprint regions, as depicted in Figures 1-2.

Therefore, it would have been obvious at the time the invention was made to extend Doner's teachings to a larger scale, such as to satellite communication system, for the advantage of an extended geographic area coverage, which in turn results into a greater number of users that can be serviced.

Regarding **claims 3, 9, and 22-25**, Doner discloses everything claimed as applied above (see *claims 1, 7 and 21*). However, Doner fails to specifically disclose TDMA as defined by applicant. But TDMA is just another technique of multiple access that can be used either singularly or in combination with Doner teachings as exemplified by Natarajan et al.

Natarajan et al. discloses a system and method for providing wireless communication and for managing channel assignment in a satellite communication system. "The channels are preferably combinations of L-Band and/or K-Band frequency channels but may encompass Frequency Division Multiple Access (FDMA) and/or Time Division Multiple Access (TDMA) and/or Code Division Multiple Access (CDMA) communication or any combination thereof. Other methods may be used as known to those of ordinary skill in the art." — column 3, lines 10-16. The advantage of such system is that a larger number of users with a larger variety of capabilities can be serviced.

Therefore, it would have been obvious at the time the invention was made to implement Doner's teachings using various multiple access techniques, such as CDMA, TDMA, or FDMA,

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either singularly or in combination, for the advantage of providing service to a larger number of users with a larger variety of capabilities.

Response to Arguments

6. Applicant's arguments with respect to all claims have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

7. Any response to this Office action should be mailed to:
Commissioner of Patents and Trademarks
Washington, D.C. 20231
or faxed to:
(703) 872-9314
for formal communications intended for entry, informal communications or draft communications; in the case of informal or draft communications, please label "PROPOSED" or "DRAFT".

Hand-delivered responses should be brought to
Crystal Park II
2121 Crystal Drive
Arlington, VA
Sixth Floor (Receptionist).

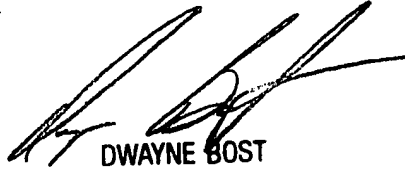
8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eliseo Ramos-Feliciano whose telephone number is (703) 305-0078. The examiner can normally be reached on Monday through Thursday (first week of bi-week) and Monday through Friday (second week of bi-week) from 8:30 a.m. to 6:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dwayne Bost, can be reached on (703) 305-4778. The fax phone number for this Group is (703) 872-9314.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 305-4700, or call Group customer service at (703) 306-0377.

ELISEO RAMOS-FELICIANO
PATENT EXAMINER

ERF/erf
April 4, 2003.


DWAYNE BOST
SUPERVISORY PATENT EXAMINER
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